Title (en)

DEVICE AND METHOD FOR FISH DETECTION

Title (de)

VORRICHTUNG UND VERFAHREN ZUR FISCHDETEKTION

Title (fr)

DISPOSITIF ET PROCÉDÉ DE DÉTECTION DE POISSON

Publication

EP 4141487 A1 20230301 (EN)

Application

EP 21194186 A 20210831

Priority

EP 21194186 A 20210831

Abstract (en)

A fish detection device (50) for accurately calculating fish biomass is provided. The fish detection device (50) comprises an underwater camera system (103) that acquires an image of one or more fish swimming underwater; a fish size calculating module (101c) that detects the one or more fish in the image and calculates a fish size of the detected one or more fish; a first ultrasonic transducer (53) that transmits a first transmission wave towards the one or more fish, receives a reflection wave of the first transmission wave reflected from the one or more fish, and generates a first reception signal from the reflection wave; a fish counting module (101a) that counts fish as a fish count value based on the first reception signal; and a fish biomass calculating module (101e) that calculates fish biomass based on fish sizes of the one or more fish and the fish count value.

IPC 8 full level

G01S 15/96 (2006.01); **A01K 61/95** (2017.01); **G01S 15/42** (2006.01); **G01S 15/66** (2006.01); **G01S 15/86** (2020.01); **G01S 15/89** (2006.01)

CPC (source: EP)

A01K 79/00 (2013.01); **G01S 7/521** (2013.01); **G01S 7/527** (2013.01); **G01S 15/42** (2013.01); **G01S 15/66** (2013.01); **G01S 15/86** (2020.01); **G01S 15/89** (2013.01); **G01S 15/96** (2013.01)

Citation (applicant)

WO 2018061927 A1 20180405 - NEC CORP [JP]

Citation (search report)

- [XI] DE 102018217164 A1 20200409 - GEOMAR HELMHOLTZ CENTRE FOR OCEAN RES KIEL [DE]
- [X] EP 3316220 A1 20180502 - BALFEGO & BALFEGO S L [ES], et al
- [A] WO 2021059143 A2 20210401 - AGAM AQUACULTURE LTD [IL]
- [A] EP 3671565 A1 20200624 - FURUNO ELECTRIC CO [JP]
- [A] US 6084827 A 20000704 - JOHNSON ROBERT L [US], et al
- [A] FUSIELLO A ET AL: "Augmented Scene Modeling and Visualization by Optical and Acoustic Sensor Integration", IEEE TRANSACTIONS ON VISUALIZATION AND COMPUTER GRAPHICS, IEEE, USA, vol. 10, no. 6, 1 November 2004 (2004-11-01), pages 625 - 636, XP011118805, ISSN: 1077-2626, DOI: 10.1109/TVCG.2004.38

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

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DOCDB simple family (publication)

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DOCDB simple family (application)

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